

We claim:

1. A hydraulic valve device comprising:

a main valve block in which control valves, a pressure oil supply line connected to a pump, and a tank line connected to an oil tank are incorporated; and

an end cover attached to a side face of said main valve block,

said main valve block further comprising:

an option valve disposed adjacent said end cover adapted to control the operation of an option actuator;

a pressure oil supply passage which connects said option valve and said pressure oil supply line with each other;

a return passage which connects said option valve and said tank line with each other;

an actuator passage to which said option actuator is connected;

a check valve for preventing reverse flowing of pressure oil from said pressure oil supply passage to said pressure oil supply line;

a pressure oil branch passage branching from said pressure oil supply passage and provided at a front end of said pressure oil branch passage with a pressure oil branch port which is closed with said end cover;

a return branch passage communicating with said tank line and provided at a front end of said return branch passage with a return branch port which is closed with said end cover; and

an actuator branch passage branching from said actuator passage and provided at a front end of said actuator branch passage with an actuator

branch port which is closed with said end cover.

2. The hydraulic valve device according to claim 1, wherein said pump comprises a first pump and a second pump, and said main valve block comprises a first main valve block which uses said first pump as a pressure oil source and a second main valve block which uses said second pump as a pressure oil source.

3. The hydraulic valve device according to claim 2, wherein said first main valve block and said second main valve block are coupled together in a state in which respective rear sides of the main valve blocks are in contact with each other, said end cover is attached to a side face of each of said first and second main valve blocks, said option valve disposed adjacent said end cover, said pressure oil supply passage, said return passage, said actuator passage, said check valve, said pressure oil branch passage, said return branch passage, and said actuator branch passage are provided within one of said main valve blocks, and a confluence passage for joining pressure oil within both said main valve blocks is disposed through both said main valve blocks, said confluence passage being closed with said end cover.

4. The hydraulic valve device according to claim 1, further comprising a connection block attached to said main valve block, with a circuit element being incorporated in said connection block, said circuit element being hydraulically connected to said option valve.

5. The hydraulic valve device according to claim 3, further comprising a connection block attached to one of said first and second main valve blocks, with a circuit element being incorporated in said connection block, said

circuit element being hydraulically connected to said option valve.

6. The hydraulic valve device according to claim 5, wherein within said connection block there is provided as said circuit element a confluence connection passage for connection between said confluence passage and said pressure oil branch passage.

7. The hydraulic valve device according to claim 6, wherein within said connection block there is provided a third pump passage for conducting pressure oil from a third pump to said confluence connection passage.

8. The hydraulic valve device according to claim 7, wherein within said connection block there is provided a confluence return passage communicating with said return branch port, and a relief valve is disposed between said confluence return passage and said third pump passage.

9. The hydraulic valve device according to claim 6, wherein a confluence switching valve for switching from one confluent state to another is disposed at a confluent point of pressure oil in said confluence connection passage.

10. The hydraulic valve device according to claim 5, wherein within said connection block there is provided as said circuit element a return direction switching valve for switching the direction of return oil from said option actuator between a position for conducting the return oil to said actuator branch passage and a position for conducting the return oil directly to said tank.

11. The hydraulic valve device according to claim 6, wherein within said connection block there is provided as said circuit element a relief valve for limiting a working pressure of said option actuator.

12. The hydraulic valve device according to claim 4, wherein said circuit element is incorporated in said end cover, and in this state said end cover is attached as said connection block to said main valve block.

13. The hydraulic valve device according to claim 5, wherein said circuit element is incorporated in said end cover, and in this state said end cover is attached as said connection block to said main valve block.

14. The method for assembling the hydraulic valve device of claim 4, comprising the steps of:

installing said option valve into the side face of said main valve block to which side face said end cover is attached; and

attaching a predetermined connection block selectively to said main valve block in accordance with a function of said option valve out of plural types of connection blocks hydraulically connected to said option valve and incorporating circuit elements.

15. A method for assembling a hydraulic valve device, comprising the steps of:

installing an option valve for controlling the operation of an option actuator into a side face of a main valve block to which side face an end cover is attached, with control valves, a pressure oil supply line connected to a pump and a tank line connected to a tank being incorporated in said main valve block; and

attaching a predetermined connection block to said main valve block in accordance with a function of said option valve out of plural types of connection blocks hydraulically connected to said option valve and

incorporating circuit elements therein.